APPENDIX G - NIEM-M LOGICAL MODELS

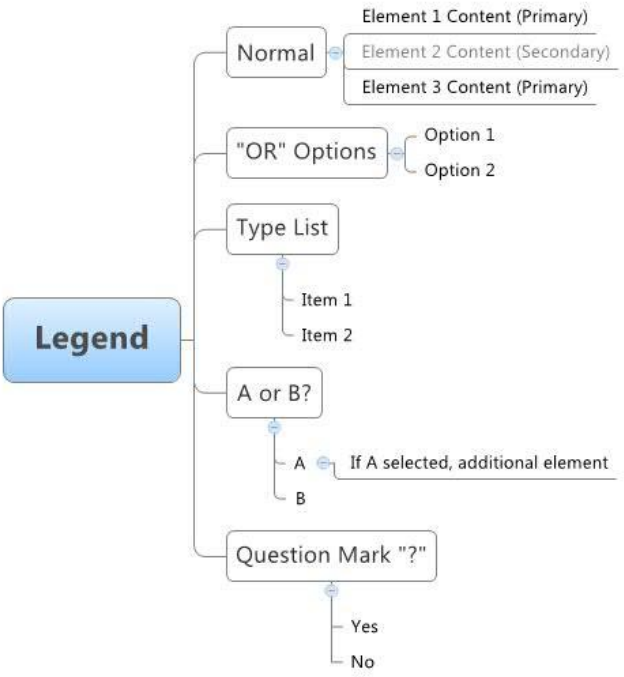
1. Introduction

The NIEM-M models, in XML format, can be confusion to non-technical participants. To facilities discussion and understand within the non-technical community, graphical representations of the logical models were developed. The logical models *do not* follow the physical model layout. The physical models are constrained by many factors like when specific elements were added to the model and changing NIEM Naming and Design Rules. However, the logical models do represent every part of the physical model.

Each IEPD and the NIEM-M EIEM are represented. The blocks for the EIEM are contained in one section and are not repeated in each IEPD. IEPD unique blocks are contained in corresponding IEPD section.

1.1. UNDERSTANDING THE LOGICAL MODELS

In order to convey the multiple data types, choices, relationships and primary or secondary elements, the logical diagrams use a variety of layout constructs. The below diagram identifies the structure and meaning of those constructs.

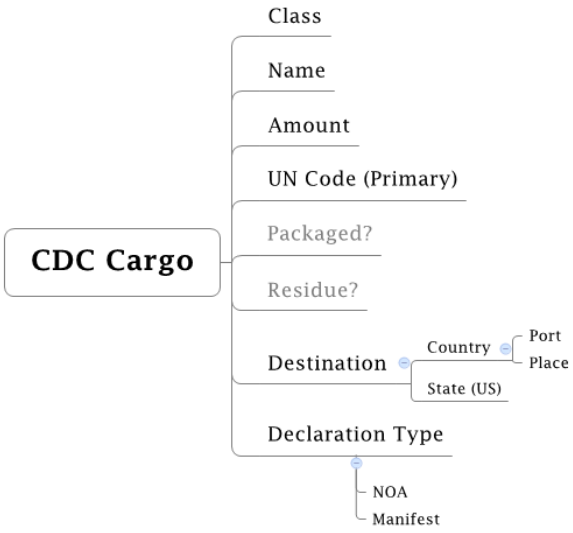


2. Enterprise Information Exchange Model

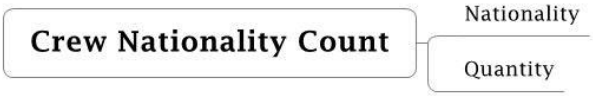
The NIEM-M EIEM defines the reusable objects, or blocks, used in the various IEPDs. Each EIEM block, at the time of this publishing, is represented.

2.1. EIEM LOGICAL OBJECTS (BLOCK LEVEL DIAGRAM)

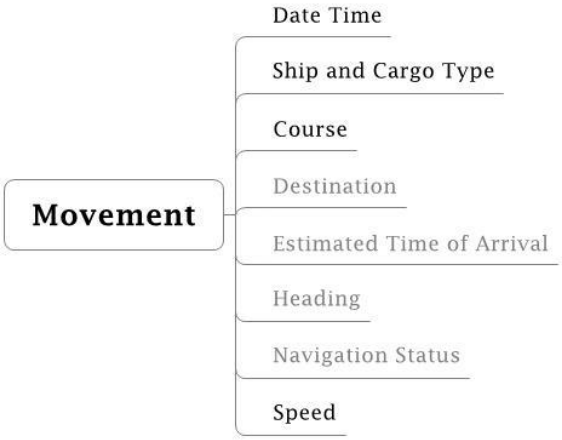
2.1.1. CDC CARGO



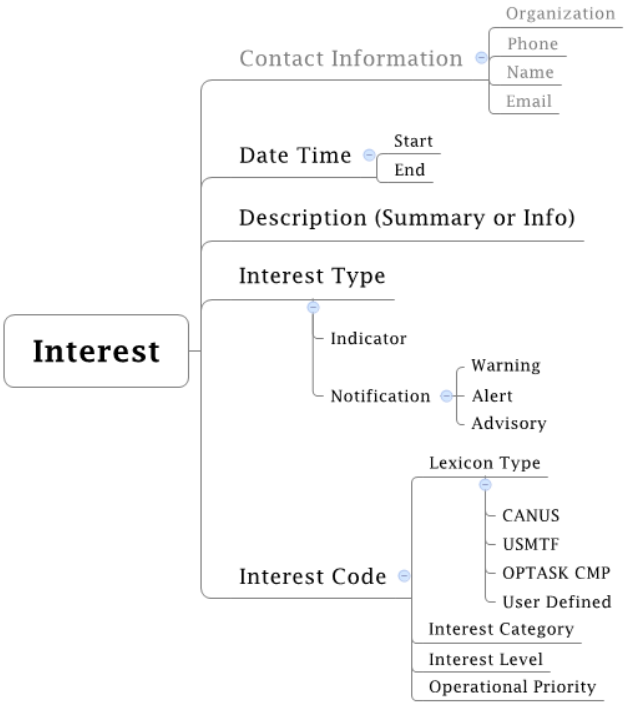
2.1.2. CREW NATIONALITY COUNT



2.1.3. MOVEMENT

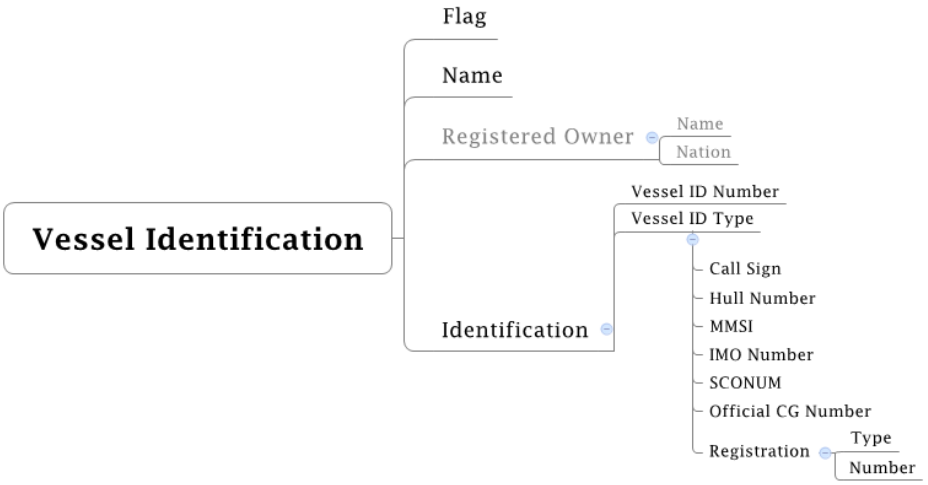


2.1.4. INTEREST

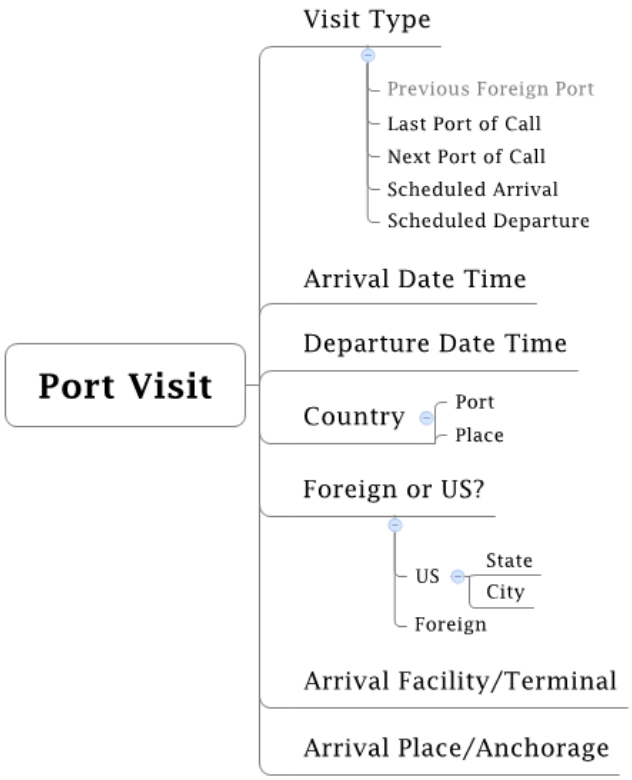


2.1.5. NON-CREW NATIONALITY COUNT

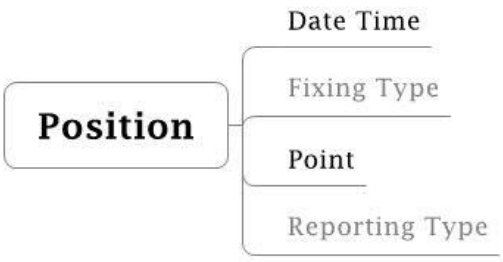
2.1.6. VESSEL IDENTIFICATION



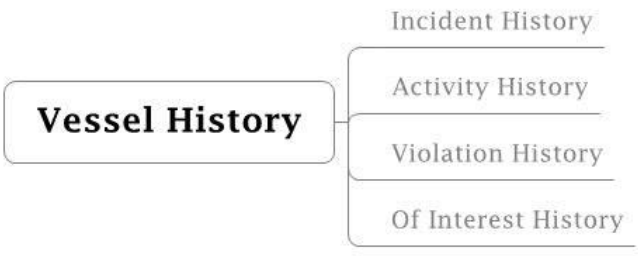
2.1.7. PORT VISIT



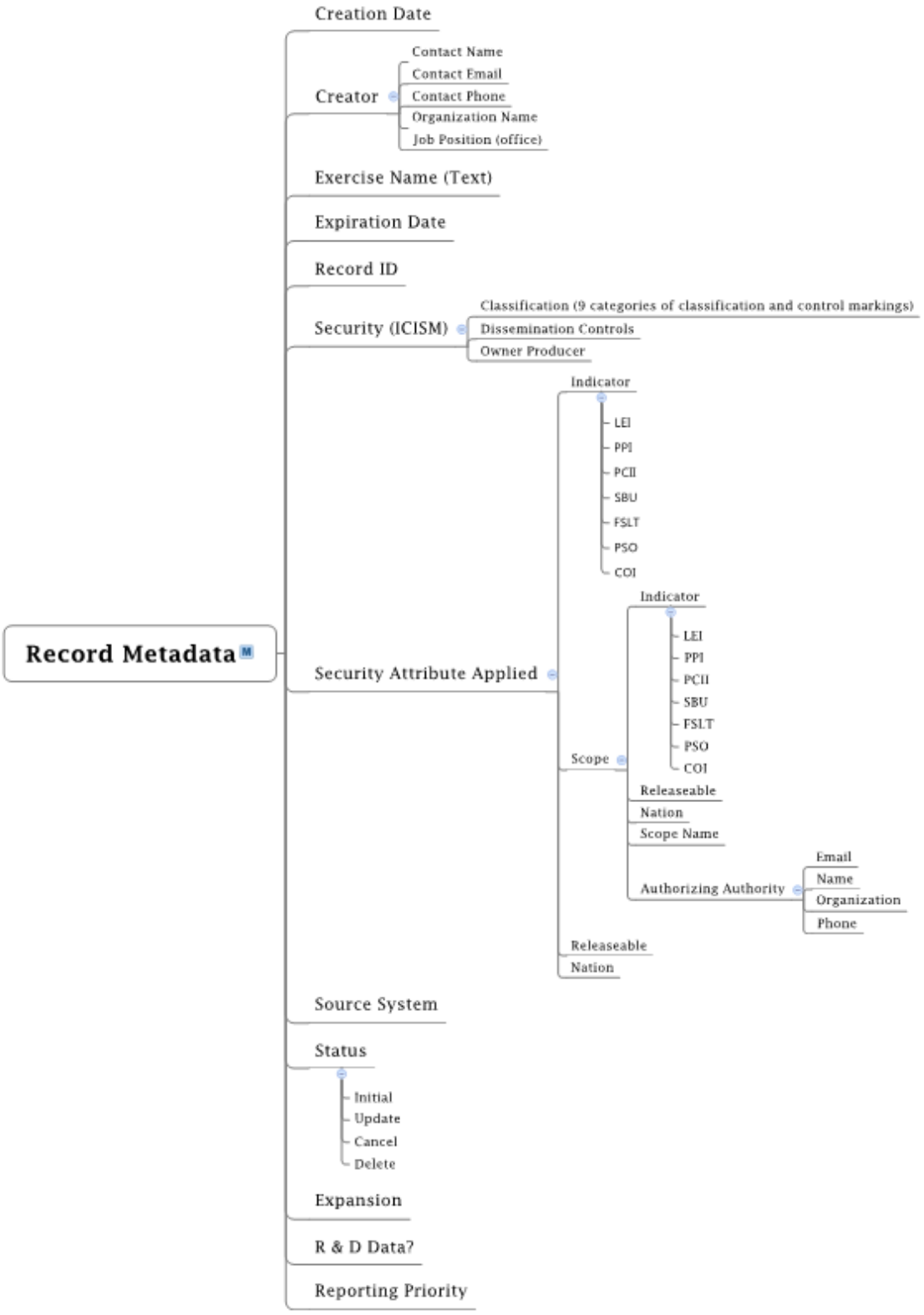
2.1.8. POSITION



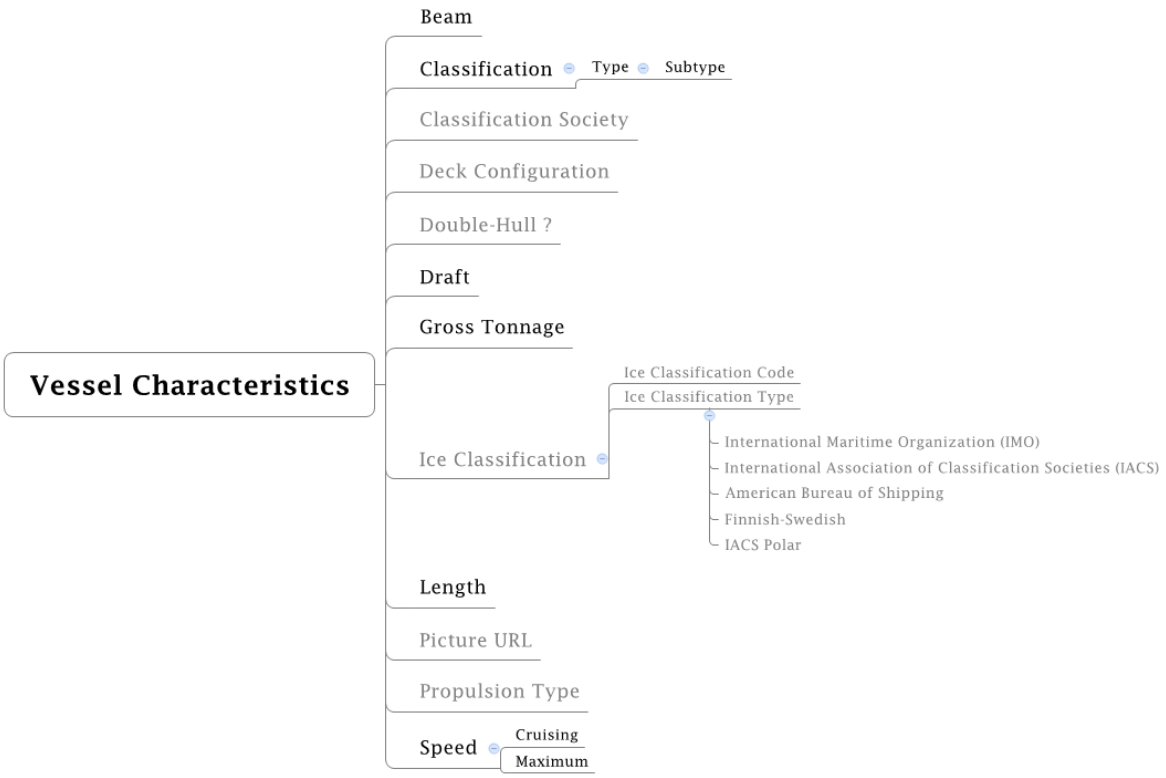
2.1.9. VESSEL HISTORY



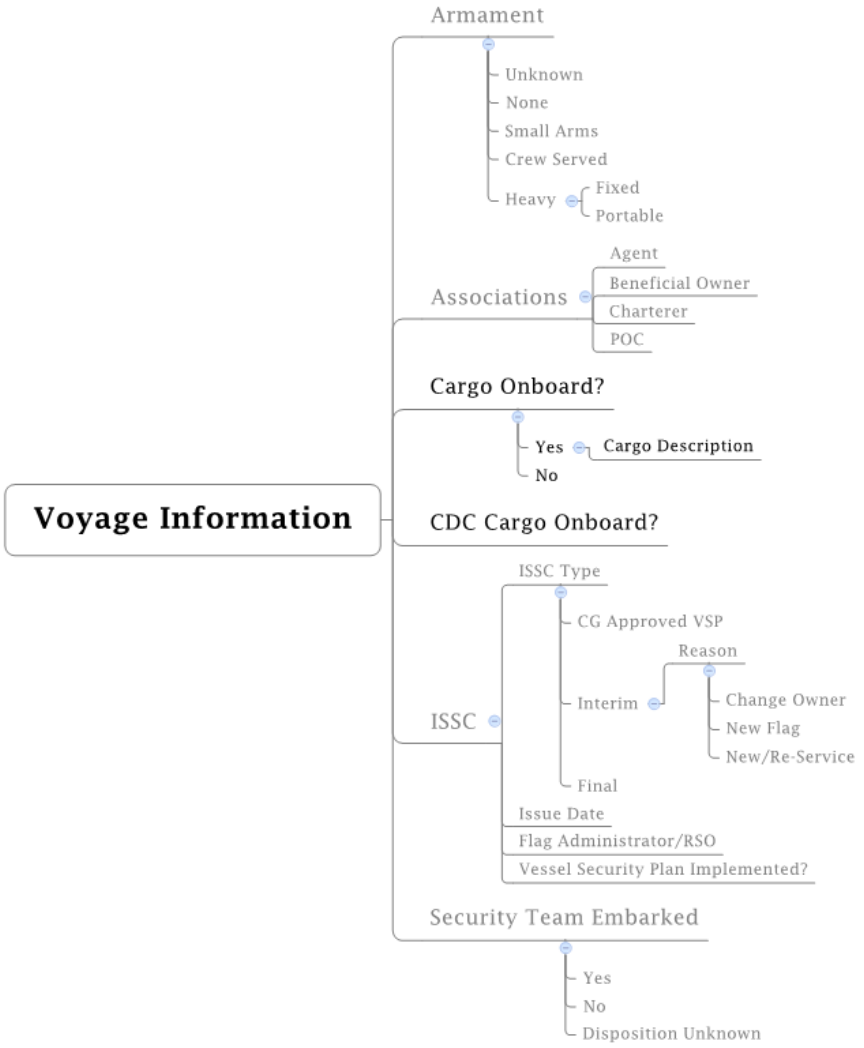
2.1.10. RECORD METADATA



2.1.11. VESSEL CHARACTERISTICS


Vessel Characteristics
Beam
Classification
Type
Subtype
Classification Society
Deck Configuration
Double-Hull ?
Draft
Gross Tonnage
Ice Classification
Ice Classification Code
Ice Classification Type
International Maritime Organization (IMO)
International Association of Classification Societies (IACS)
American Bureau of Shipping
Finnish-Swedish
IACS Polar
Length
Picture URL
Propulsion Type
Speed
Cruising
Maximum

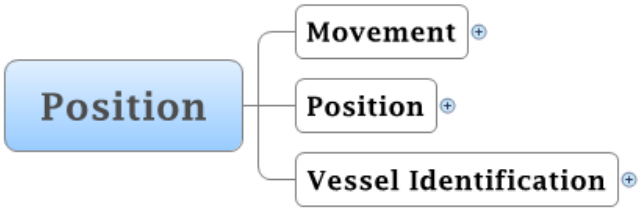
2.1.12. VOYAGE INFORMATION



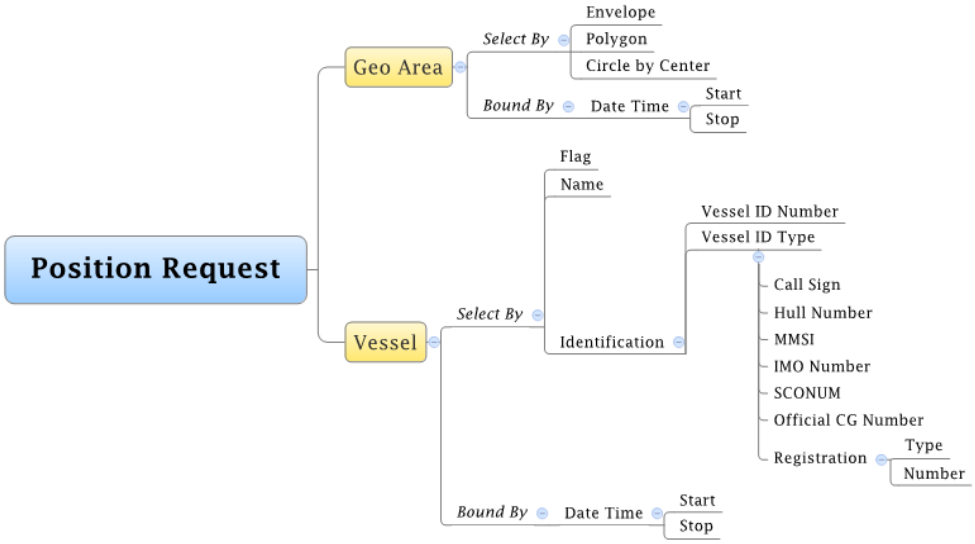
3. Position

Below are graphical representations of the exchange and request/query logical models for the NIEM-M Position IEPD.

3.1. EXCHANGE MODEL



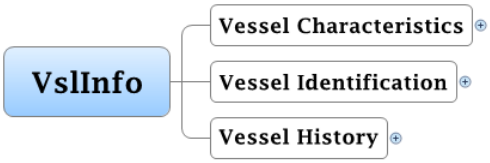
3.2. REQUEST/QUERY MODEL



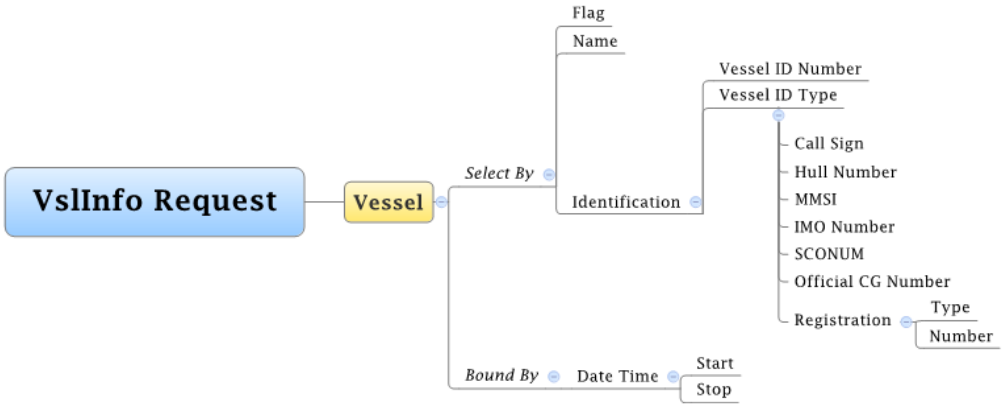
4. Vessel Information

Below are graphical representations of the exchange and request/query logical models for the NIEM-M Vessel Information IEPD.

4.1. EXCHANGE MODEL



4.2. REQUEST/QUERY MODEL

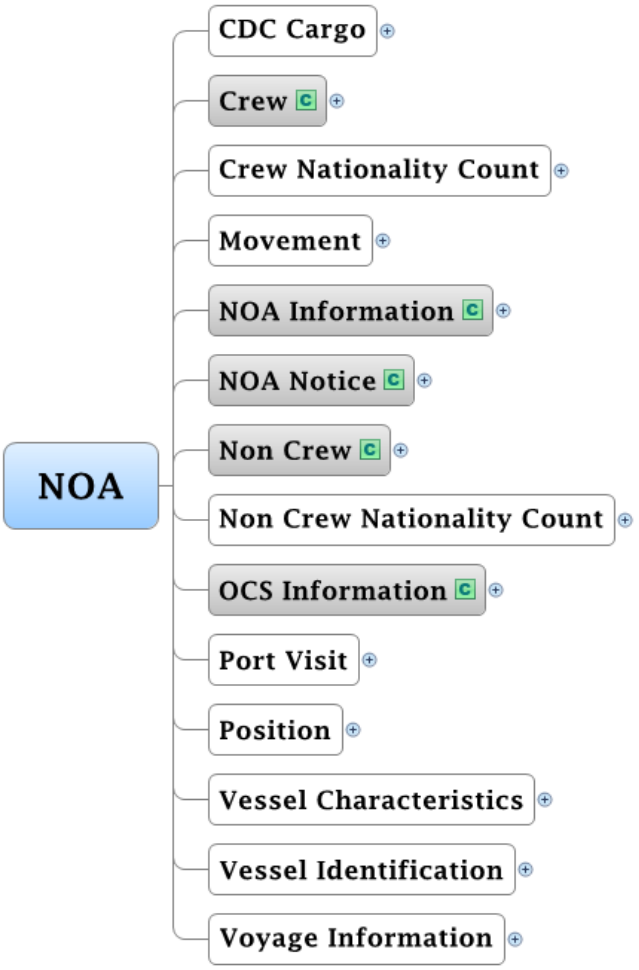


5. Notice of Arrival

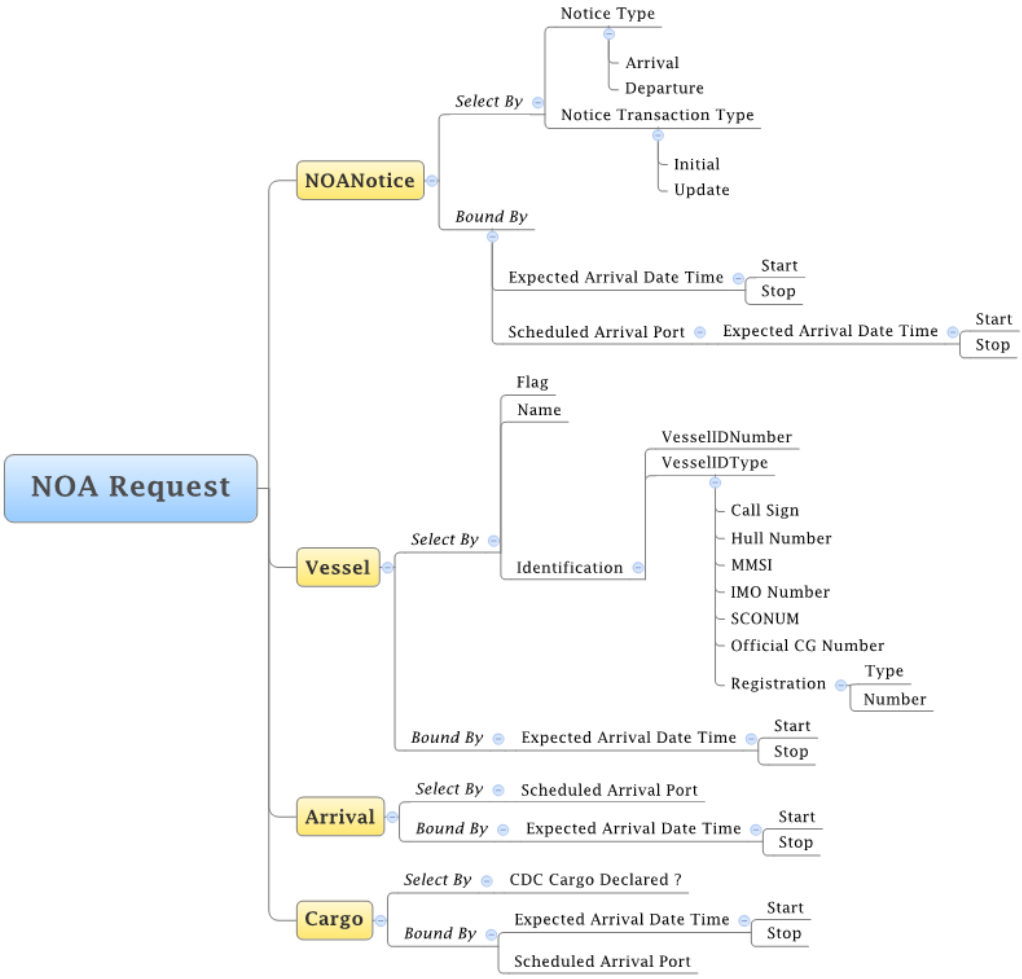
Below are graphical representations of the exchange and request/query logical models for the NIEM-M Notice of Arrival IEPD.

5.1. EXCHANGE MODEL

Several NOA blocks are not part of the NIEM-M EIEM and are shown in a later section.

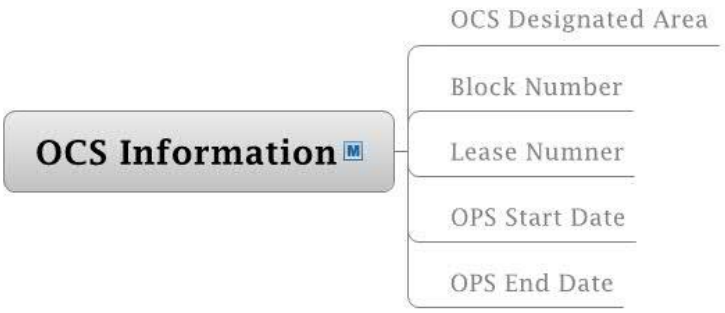


5.2. REQUEST/QUERY MODEL

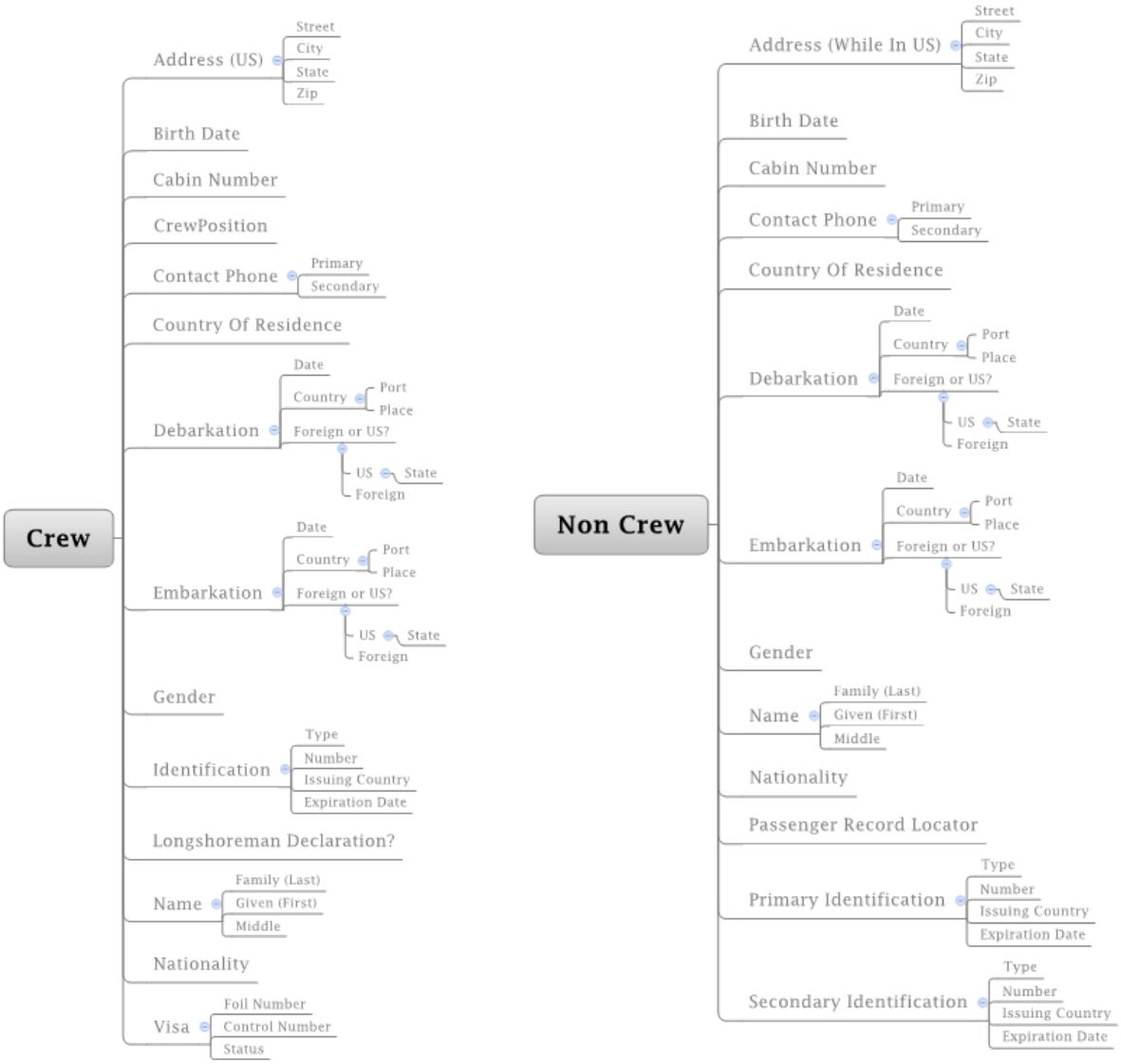


5.3. NOA UNIQUE OBJECTS (NON-EIEM BLOCK)

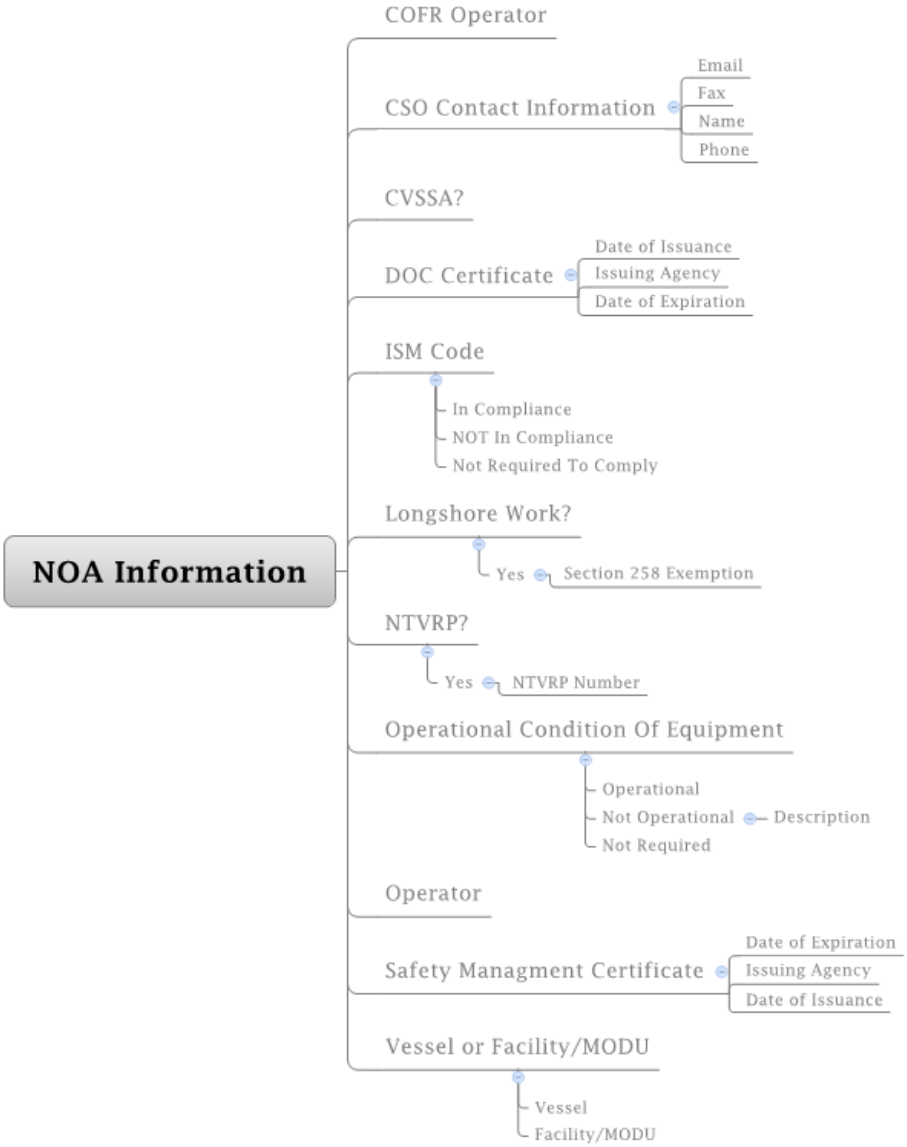
5.3.1. OCS INFORMATION



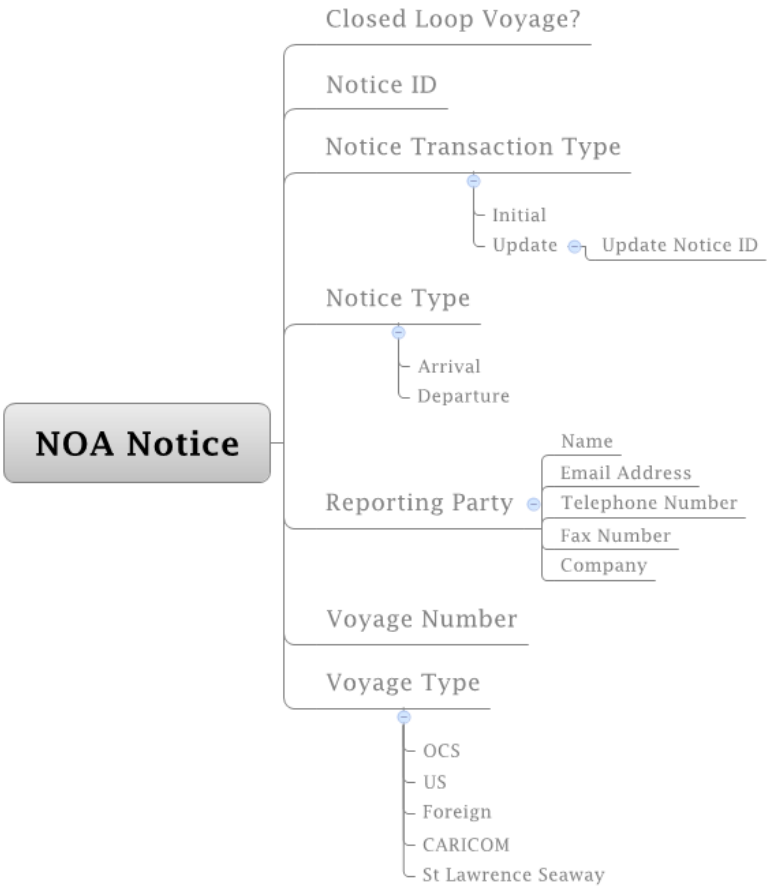
5.3.2. CREW & NON-CREW



5.3.3. NOA INFORMATION



5.3.4. NOA NOTICE

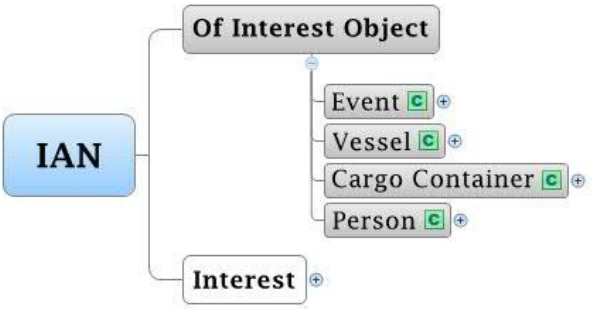


6. Indicators and Notifications

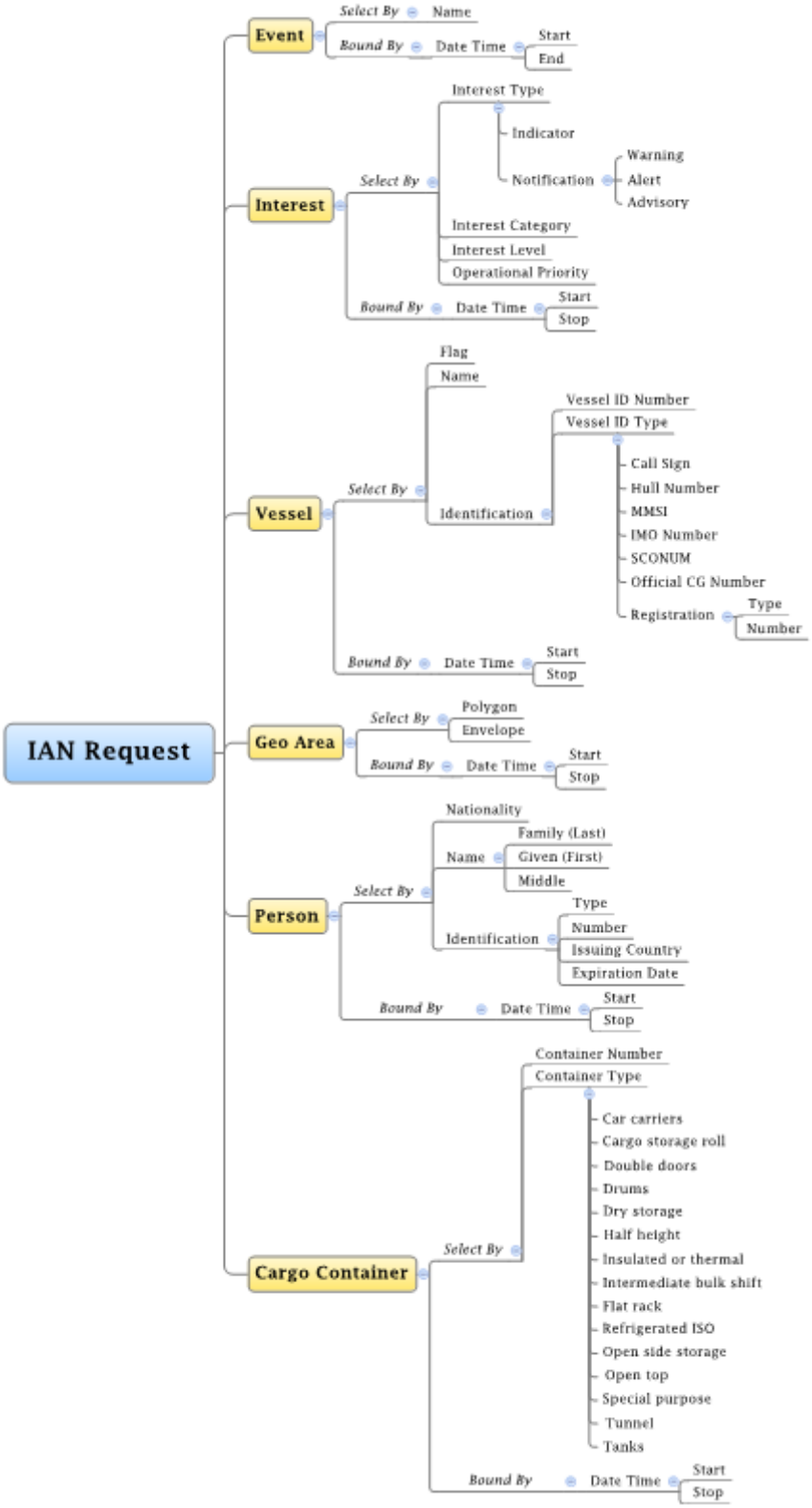
Below are graphical representations of the exchange and request/query logical models for the NIEM-M Indicators and Notification (IAN) IEPD.

6.1. EXCHANGE MODEL

The *Of Interest Object* block is not part of the NIEM-M EIEM so the IAN unique blocks are shown in a later section.

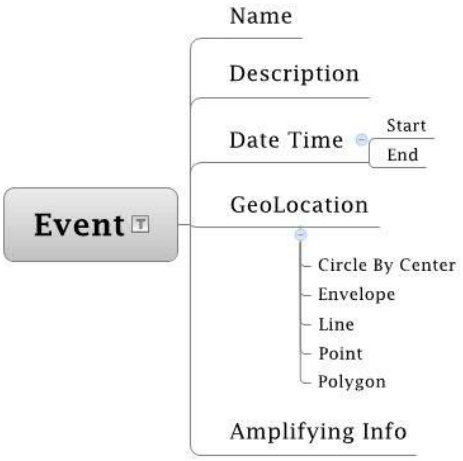


6.2. REQUEST/QUERY MODEL



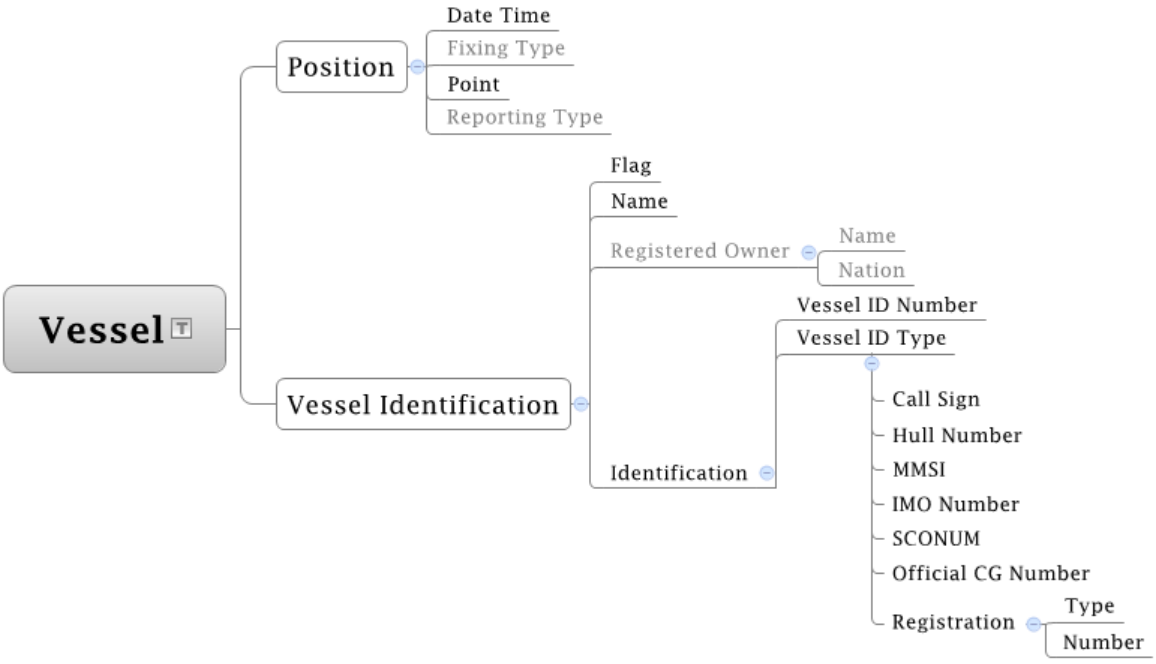
6.3. IAN UNIQUE OBJECTS (NON-EIEM BLOCK)

6.3.1. OF INTEREST OBJECT - EVENT

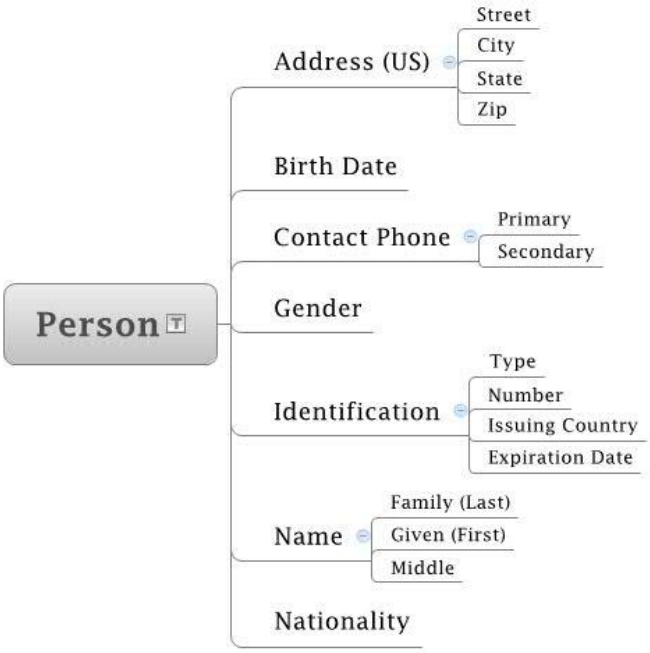


6.3.2. OF INTEREST OBJECT – VESSEL

The Vessel block is made up of the *Position* and *Vessel Identification* EEIM blocks.



6.3.3. OF INTEREST OBJECT - PERSON



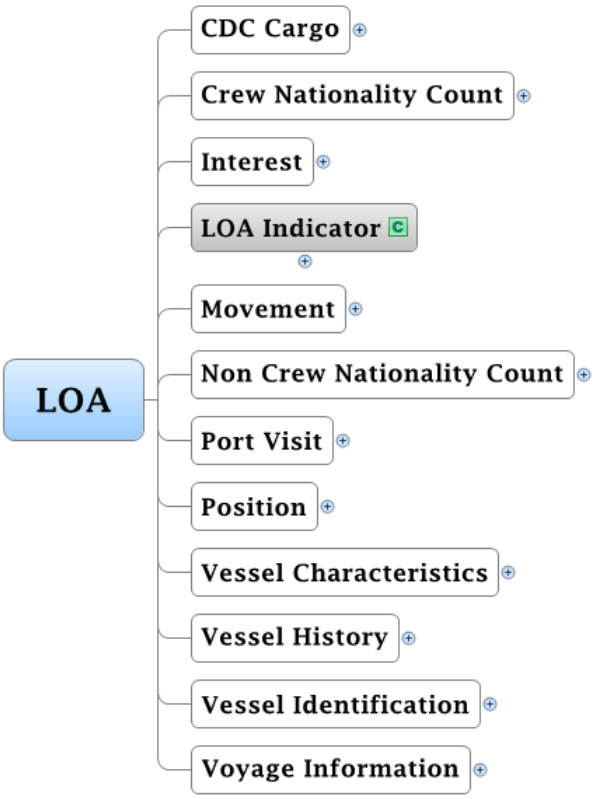
6.3.4. OF INTEREST OBJECT – CARGO CONTAINER

7. Levels of Awareness

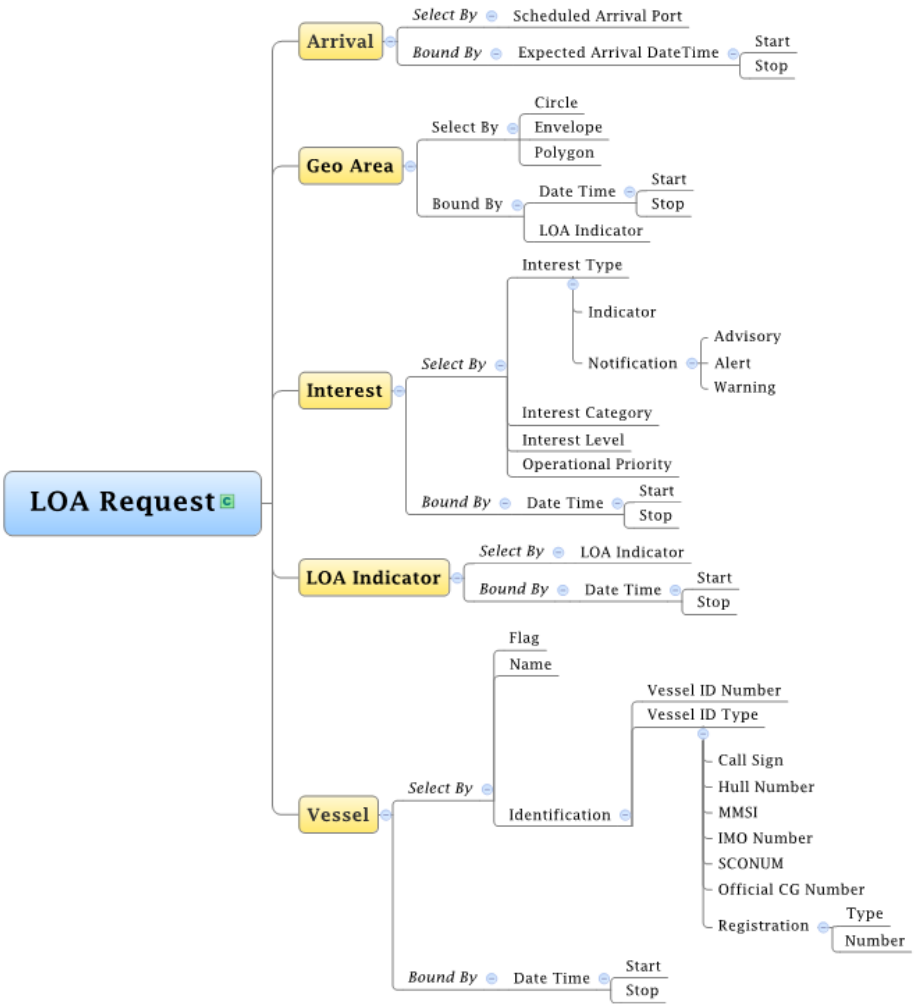
Below are graphical representations of the exchange and request/query logical models for the NIEM-M Levels Of Awareness (LOA) IEPD.

7.1. EXCHANGE MODEL

The *LOA Indicator* block is not part of the NIEM-M EIEM so the LOA unique block is shown in a later section.

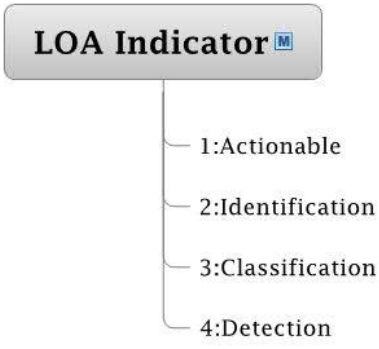


7.2. REQUEST/QUERY MODEL



7.3. LOA UNIQUE OBJECTS (NON-EIEM BLOCK)

7.3.1. LOA INDICATOR



VERSION 3.0

RELEASE 1

FEBRUARY 2015